

Application No: 10/807,720
Amendment A
Reply to Office Action Dated 09/13/2007

Attorney Docket No: 3926.068

REMARKS

Claims 14-29 are now pending in the application. Claims 14-29 have been amended. Claims 1-13 have been previously cancelled.

Claim Rejections - 35 U.S.C. § 102

Claims 14, 18, 26-27, and 29 have been rejected under 35 USC 102(b) as being anticipated by Yasui et al. (EP 1 094 337 A2).

Yasui et al. disclose a parking assistance system comprising an image pick-up 10 with a single camera, an image processing device 20, a display 30, a steering angle sensor 40, a wheel speed sensor 50, and a pulse converter 60 (see the abstract and Fig. 1). The image processing device 20 includes an analog/digital converter 21, frame memories 22, 23, and 27, a CPU 24, RAM 25, ROM 26, and a controller 28 (see paragraph [0026] and Fig. 2). The Examiner's arguments have the following problems:

- The Examiner has identified the elements 40 and 50 as the image sensor. However, the elements 40 and 50 are a steering angle sensor and a wheel speed sensor respectively, which do not sense any image.

- The Examiner has identified the elements 22, 23 as an intermediate memory into which the image information is additionally recorded. However, the elements 22, 23 are frame memories for storing different image data picked up at different positions for the purpose of calculating a positional displacement of the vehicle (see page 5, lines 28-32 of Yasui et al.). In contrast, in the present invention, the intermediate memory (4) is used to additionally store the image information for the purpose to be used to compare with the most recently recorded image in order to trigger a modification of the displayed video image upon an impermissible deviation. Also, it is noted that in Yasui et al. the frame memories 22, 23 are part of the image processing device 20 and are necessary for the processing of the image data, whereas in the present

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invention the intermediate memory (4) is not necessarily part of the image processor (2) and is not necessary for the processing of the image data. The intermediate memory (4) is only used during comparison step by the comparison means (5).

- The Examiner has compared the distance calculation as described in paragraph [0026] of Yasui et al. with the image comparison as recited in the claims of the present invention. However, it is noted that in the image comparison of the present invention, there is not any distance calculation involved, rather the most recently recorded image is compared with the image information stored in the intermediate memory in order to detect any deviation.

Although Applicants believe that the Examiner has not justified all the rejections, the language of independent claims 14 and 27 has been modified to even more clearly define the present invention and facilitate the prosecution of the instant application. More specifically, claims 14 and 27 have been amended to recite that vehicle operating parameters (6) are fed to the vehicle environment surveillance unit (0) in order to determine an impermissible deviation by the fact that an expected deviation of the image information between time points of acquiring the most recently recorded image and the stored image information due to the operating parameters does not plausibly correlate with the result of a comparison of the image information. The support for the amendment may be found, for example, in paragraph [0009] of the specification.

In the parking assistance system of Yasui et al., a first and a second image pick-ups of the vehicle environment are acquired by a single camera during the movement of the vehicle at different positions and at different time points. A road distance covered between the first and second positions is determined using a distance determination unit and an 3D-object distance is determined using the respective 3D-object position in the two image pick-ups taking into consideration of the covered road distance (see paragraph [0011] of Yasui et al.). A person skilled in the art can only obtain from Yasui et al. that changes of the image data will be considered in calculating the 3D-object distance, whereby information about relative movement of 3D-objects in relation to the camera position will be evaluated. In order to acquire the
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absolute movement using the information about the relative movement, a fusion of the movement information takes place. However, a person skilled in the art cannot obtain from Yasui et al. an evaluation of an impermissible deviation of the most recently recorded image because Yasui et al. do not define any where when a deviation is permissible or impermissible. In contrast, in the method of the present invention, the image information is undergone a plausibility check, whereby impermissible deviation between the most recently recorded image and the image information stored in the intermediate memory will be considered. A correlation with the comparison result of the information of the two images also takes place in the method of the present invention (see paragraph [0009] of the specification of the instant application). In particular, in order to determine the impermissible deviation, vehicle operating parameters will be compared with the detected image information or the image parameters of the image information (see paragraph [0009], lines 7-10, of the specification of the instant application). Using the movement information, the image information detected via the vehicle environment surveillance unit can be subject to a plausibility check (see page 5, lines 7-10 of the specification of the instant application). For example, during the surveying of environmental data with a still-standing vehicle the view of the scene should not change. However, when surveying the environment with a still-standing vehicle the position and size of individual objects within a scene can change on the basis of their own movement. On the other hand, in the case that the own vehicle is in motion, image information can be detected, wherein both the view of the overall scene changes as well as the position and size of individual objects. See page 5, lines 10-17 of the specification of the instant application. Using the vehicle speed, the image information detected via the vehicle environment surveillance unit can be subject to a plausibility check, whereby, in particular, the change in the size and position of objects within a particular time frame will be evaluated (see page 6, lines 1-3 of the specification of the instant application). Such a vehicle environment surveillance unit is not anticipated or rendered obvious by Yasui et al.

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Claims 14 and 27 are, therefore, believed to be patentable over Yasui et al. and since all the dependent claims are ultimately dependent on claims 14 or 27, they are believed to be patentable as well.

Claim Rejections - 35 U.S.C. § 103

Claims 15-16 have been rejected under 35 USC 103(a) as being unpatentable over Yasui et al. in view of Sakiyama et al. (US 6,411,867 B1).

Claim 17 has been rejected under 35 USC 103(a) as being unpatentable over Yasui et al. in view of Ikeda (US 6,734,787 B2).

Claims 20-24 have been rejected under 35 USC 103(a) as being unpatentable over Yasui et al. in view of Gunderson et al. (US 2006/0119473 A1).

Claims 25 and 28 have been rejected under 35 USC 103(a) as being unpatentable over Yasui et al. in view of Shisgal et al. (US 5,574,426).

Dependent claims are believed to be patentable due to their dependency on independent claims 14 or 27.

The Commissioner is hereby authorized to charge any fees which may be required at any time during the prosecution of this application without specific authorization, or credit any overpayment, to Deposit Account Number 50-0951.

Favorable consideration and early issuance of the Notice of Allowance are respectfully

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requested. Should further issues remain prior to allowance, the Examiner is respectfully requested to contact the undersigned at the indicated telephone number.

Respectfully submitted,



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